JOYNER pneumatic GmbH
Im Netzbrunnen 6
D-70825 Korntal-Münchingen

Operating Instructions **Solenoid valves** **English**

Thanks for choosing a JOYNER valve. To assure the function and for your own safety please read the following operating instructions carefully, before installing the product. If there are any further questions, please do not hesitate to contact us:

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The operating instructions are valid for the following valve-types:

MH 311 012,	MH 311 015,	MH 311 013,	MH 311 017,	MH 210 501,	MH 210 701,	MH 310 501,	MOH 310 501,
MH 310 701,	MOH 310 701,	MH 310 801,	MOH 310 801,	MH 310 101,	MOH 310 101,	MH 310 121,	MOH 310 121,
MH 320 501,	MH 320 701,	MH 320 801,	MH 320 101,	MH 320 121,	MH 310 501 G,	MOH 310 501 G,	MH 310 701 G,
MOH 310 701 G,	MH 310 101 G,	MOH 310 101 G,	MH 310 121 G,	MOH 310 121 G,	MH 320 501 G,	MH 320 701 G,	MH 320 101 G,
MH 320 121 G,	MH 312,	MH 315,	MH 510 501,	MH 510 701,	MH 510 801,	MH 510 101,	MH 510 121,
MH 520 501,	MH 520 701,	MH 520 801,	MH 520 101,	MH 520 121,	MH 510 501 G,	MH 510 701 G,	MH 510 101 G,
MH 510 121 G,	MH 510 504,	MH 510 704,	MH 520 501 G,	MH 520 701 G,	MH 520 101 G,	MH 520 121 G,	MH 520 504,
MH 520 704,	MH 53_ 501,	MH 53_ 701,	MH 53_ 801,	MH 53_ 101,	MH 53_ 121,	MH 53_ 501 G,	MH 53_ 701 G,
MH 53_ 101 G,	MH 53_ 121 G,	MH 53_ 504,	MH 53_ 704,	MNH 310 701,	MNH 311 701,	MNH 310 711,	MNH 310 121,
MNH 510 701,	MNH 511 701,	MNH 510 711,	MNH 510 121,	MNH 520 701,	MNH 520 121,	MNH 350 701,	MNH 53_ 701,
MNH 53_ 121,	MNF 510 701,	MNF 520 701,	MNDH 510 701,	MNDH 520 701,			

Also valves of the stainless steel range (type VES) and valves with the CNOMO interface (type MC, MOC and MNC) are included.

These valves can be used – if they are marked appropriately (please refer to the declaration of conformity) - in potentially explosive atmospheres. Zones and product categories the valves and the solenoid systems can be used in are defined and explained in the declaration of conformity. Use in other areas or in different combination as mentioned below is not allowed!

The operating instructions are to be used together with the manual of the appropriate solenoid system. The manual of the solenoid system is relevant for the electrical part of the product, this manual for the non-electrical.

In General:
Please notice that not following these instructions or any kind of inappropriate engagement lead to the end of any kind of warranty and liability from our side. Please notice the means of use described in these instructions and print-on on the product itself.
Application and operation of the device must ensue in accordance to general terms of technology.
Please undertake any means to avoid unintended actuation and inappropriate use.
Always take into consideration that pressurised fittings, tubes and systems are not to be opened.
Observe all national and international regulation of relevance.
The solenoid valves are designed for controlling pneumatic actuators with compressed air. The valves are not intended for the use with fluids or gases.

Installation:
When taking the product out of the packaging take care that no dirt or other particles are coming into the product.
Only use appropriate fittings that do not cause or lead to any dirt in the system. Only use clean fittings and tubing.
The valve can be installed in any desirable position, preferably upwards.
Install the product in a way that regular cleaning is possible. Do not over-bend the air supplies.
Installation is allowed only through educated work-force and under consideration of the relevant operating instructions.

Avoid electrostatic charge of product and attached accessories including tubes and cables. Tubes and bundles of tubing must not have an outer diameter of not more than 20 mm.
Connect conductive metal parts together for potential equation and ground the entire system.
For the electrical installation observe the instruction of the solenoid system.
Close unused ports. Avoid potentially explosive atmosphere inside the valve, pipe exhaust to outside.
Only use the valve with the enclosed coils. Systems for Ex nA, Ex m, Ex ia, Ex e mb, Ex dm and Ex d (for detailed information please refer to the declaration of conformity) as marked on the valve and on the coil, mixing of components is not allowed.

Operation:
Only use cleaned and lubricated or cleaned and unlubricated compressed air quality level ISO 8573-1 [7:4:4]. If using lubricated air in an explosive gas atmosphere make sure that it is taken out of this atmosphere by appropriate means. Compressed air must not be drawn from an explosive atmosphere.

The temperature rise of the product is linked to the used media and the temperature rise of the coils.
For the systems Ex nA, Ex m, Ex ia, Ex e mb and Ex dm the temperature of the compressed air must be between -10°C and +50°C. When using the valve below 0°C make sure to use dried air. The environment where the valve is used has to be in a temperature range between -10°C and +50°C. The system Ex d can be used with a compressed air temperature and in an environmental temperature of -10°C to +40°C (please take note about the temperature specifications in the manual of the solenoid system). If used below 0°C only use dried air.
Please observe the temperature class printed onto the coil. The valve body generally remains colder than the coils.
Avoid that the valve gets in contact with liquids or corrosive media.
The maximum operating pressure of Ex nA, Ex m, Ex e mb, Ex dm and Ex d systems is 10 bar. The maximum operating pressure of Ex ia systems is 8 bar.
Over-pressurising of the valve might lead to function failures. For the minimum operating pressure, please refer to the technical datasheet.
Do not bend the product. Do not over-bend hoses. Do not step onto the product. Check the function of the product regularly, minimum every 6 month or after 5 million switches.

Malfunctioning:
Check the electric and pneumatic connections, operating pressure and voltage.

If the problems are not solved by these means make sure the pressure is taken off the system and dismantle the product from the electrical source. Address authorised and educated personnel

Warnings:
Repair-work of any means inside the product is only to be made by authorised and educated personnel and with appropriate tools. Any warranty and liability of the manufacturer expires with unauthorised engagement.
Avoid injury! The product, especially the coil might be hot during of shortly after operation.
Only use the product in combination with the approved products of the solenoid system manufacturer, the permission expires when other solenoids are used.
Impacts involving rusty or light metal and their alloys might cause sparks. Do not use tools with corroded surfaces and protect product from falling objects.
Dust on hot surfaces is highly inflammable, please clean regularly.

JOYNER pneumatic	**Declaration of conformity** **Explosion-proof-directive**	No.:0035 English

The Company **JOYNER pneumatic GmbH , Im Netzbrunnen 6 , D-70825 Korntal-Münchingen**

as the sole responsible part hereby declares, that under the provision of Directive 94/9/EC of the European Parliament and the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres in its current form, that the above enlisted products as referred to in this declaration complies with the following standards and normative documents in their valid form:

EN 13463-1:2009 non-electrical equipment in explosion-hazard areas, part 1: Basic method and requirements
EN 13463-5:2011 non-electrical equipment in explosion-hazard areas, part 5: Protection by constructional safety ‘c’

The documents are stored as required by the directive 94/9/EC article 8(1)b)ii at: TÜV Industrie Service GmbH, Am Grauen Stein, D-51105 Köln

The valves are marked at the head defining the zone they are to be used in, valve-solenoid-combinations are to be chosen as follows. Other use and combination is not allowed!

	Allowed area / degree of hazard	Mark on valve	Mark on solenoid	Short description of solenoid
Ex m T4	Zone 1 (G) category 2 (II2G) Zone 21 (D) category 2 (II2D)	CE Ex II2G/D c T4 -10°C ≤ Ta ≤ 50°C	Ex II 2G Ex mb IIC T4 II 2D Ex mb tb IIIC T130°C	width 22 mm, different voltages, Typ 1213 (DC) 0513 (AC)
Ex nA T5	Zone 2 (G) category 3 (II3G) Zone 22 (D) category 3 (II3D)	CE Ex II3G/D c T5 -10°C ≤ Ta ≤ 50°C II3G/D c T6 -10°C ≤ Ta ≤ 50°C	Ex II3G Ex nA IIC T5 Gc II3D Extc IIICT95 °C Dc IP65	width 30 mm, different voltages, Typ 558 50
Ex e mb T4	Zone 1 (G) category 2 (II2G) Zone 21 (D) category 2 (II2D)	CE Ex II2G/D c T4 -40°C ≤ Ta ≤ 60°C II2G/D c T6 -40°C ≤ Ta ≤ 50°C	Ex II 2 G Ex e mb IIC T4 Gb II 2 D Ex mb tb IIIC T130°C Db	width 52 mm, different voltages, type 0519
Ex e mb T6	Zone 1 (G) category 2 (II2G) Zone 21 (D) category 2 (II2D)	CE Ex II2G/D c T4 -40°C ≤ Ta ≤ 60°C II2G/D c T6 -40°C ≤ Ta ≤ 50°C	Ex II 2 G Ex e mb IIC T6 Gb II 2 D Ex tb mb IIIC T80°C Db	width 52 mm, different voltages, type 0519
Ex dm T5	Zone 1 (G) category 2 (II2G) Zone 21 (D) category 2 (II2D)	CE Ex II2G/D c T5 -10°C ≤ Ta ≤ 50°C	Ex II 2G Ex db mb IIC T5 Gb X II 2D Ex tb IIIC T95°C IP66 Db X	width 36 mm, different voltages, type 30XDM
Ex d T6	Zone 1 (G) category 2 (II2G) Zone 21 (D) category 2 (II2D)	CE Ex II2G/D c T6 -10°C ≤ Ta ≤ 40°C	Ex II 2 G Ex d IIC T6 II 2 D Ex tD A21 IP66	width 52 mm, different voltages, type EP000/d/TB
Ex ia T6	Zone 1 (G) category 2 (II2G) Zone 21 (D) category 2 (II2D)	CE Ex II2G/D c T6 -10°C ≤ Ta ≤ 50°C	Ex Ex ia IIC T6 Ga Ex t IIIC T80°C Db IP65	width 30 mm 24DC, type 1262 00 / W5146

Korntal-Münchingen, March 2015

Andreas Krämer, managing direktor